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Worldwide Report

NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 210



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HAWKE'S POSITION ON URANIUM SPARKS POLICY DEBATE

Report on Exports

Melbourne THE AGE in English 16 Sep 83 p 1

[Article by Simon Balderstone]

[Text]

CANBERRA. — A confidential report for Federal Cabinet shows that the uranium policy option being pushed by the Prime Minister, Mr Hawke, would nearly treble uranium exports by 1992.

The report, by an interdepartmental committee, shows that if Cabinet decides to adopt the Hawke position of allowing new contracts for the Ranger and Nabarlek mines the uranium industry would be free to develop almost to its full sale potential.

The new contracts option, one of two options to be put to Cabinet in a separate submission by the Minister for Resources and Energy, Senator Walsh, appears to conflict with the ALP's "minimum" policy position of "a total unequivocal commitment to phase out Australia's involvement in the uranium industry".

The Age has learned details of the submission of Senator Walsh, and of the inter-departmental uranium report.

The Walsh submission is believed to indicate that all relevant departments support the Hawke position of allowing new contracts, with at least one arguing for no restrictions on uranium mining except for agreements on safeguards.

Such a policy position is sure to be strongly opposed by the Left of the ALP, which argues strongly that there should be no new contracts for existing mines and that the two negotiating licences issued to Queensland Mines and Energy Resources of Australia should be revoked.

Queensland Mines operates the Nabarlek mine, of which most of the stockpiled uranium is already covered by contracts, and ERA operates the Ranger project, in the Alligator River region of the Northern Territory.

The Walsh submission is believed to indicate that the departments of Trade, Treasury, Finance, and Prime Minister and Cabinet support the granting of new contracts.

The uranium report for Cabinet shows that uranium exports will total about 5000 short tons of U308 (yellowcake) this year.

It shows that if Ranger and Nabarlek were allowed to continue to export on the basis of pre-election approvals, by 1992 exports would be 3300 tons. Exports would drop to that amount in 1988 as the Nabarlek contracts finished.

By 1996 when the Ranger mine cut out, exports would be nil.

That scenario is directly in line with ALP policy of phasing out the industry. Cabinet would also have to consider the position of specific contracts to several countries, including Japan and France.

ALP policy, covering existing contracts, stipulates, for instance, that any contract with the French Government could only be contemplated if France stopped nuclear tests in the Pacific, and Japanese contracts would be subject to them withdrawing from intentions to dump waste material in the Pacific.

ALP policy also applies conditions to exports to other countries.

If the Government adopts the position of allowing Nabarlek and

Ranger to get the contracts necessary for them to dispose of their production, exports would be 9100 tons in 1992 — almost three times the figure inherent in the phasing-out position.

Sales prospects are estimated to be 10,800 tons in 1992, so the 9100-ton export level, coupled with the small amount of the Nabarlek stockpile not already contracted for sale, would mean the industry had reached almost full development within the constraints of the market.

The submission is believed to recommend that the Government should approve any uranium contracts and exports from the huge Roxby Downs mine in South Australia, because the uranium would be mined incidentally to other minerals at the project, and because it would be in the national interest.

The ALP policy states that a Labor Government could "consider applications for the export of Uranium mined incidentally to the mining of other minerals on a case-by-case basis and on the criteria of whether in the opinion of a Labor Government the mining of such minerals is in the national interest".

The predictions of a big increase in uranium exports under the "new contract" policy are put forward in the inter-department report to go to Cabinet when it considers uranium policy.

Cabinet is expected to discuss the issue next week.

The other option before Cabinet will be that Queensland Mines and ERA be allowed to fulfil supply commitments, but that the Government should not approve exports from post-election contracts.

Continued ALP Opposition

Sydney THE AUSTRALIAN in English 19 Sep 83 p 1

[Article by Ian Perkin and David Trounce]

[Text]

FEDERAL Labor MPs from Victoria yesterday supported the call by the State ALP for no new uranium mines in Australia or further uranium export contracts.

The move sets the scene for strong debate in Caucus on the uranium issue at its next meeting tomorrow.

The MPs met members of the Victorian ALP Anti-Uranium Policy Committee and the branch's administration committee.

The junior vice-president of the Victorian ALP, Ms Solange Shapiro, who chaired the meeting, said that in line with the Victorian branch's policy of total opposition to the mining and export of uranium the meeting expressed the following views:

NO new mines should be allowed to operate and no further contracts entered into for the export of uranium from existing mines.

THE widest debate should be set in train within and without the party on the matter of the Roxby Downs uranium mine project in South Australia before any decision is taken on the issue by Cabinet and Caucus.

ALL exports of uranium to France should immediately cease.

The meeting noted that under federal ALP rules, no State branch may direct federal ALP parliamentary members on matters affecting the national platform or policy.

That power is reserved for the national conference of the party or the national executive between conferences.

Party officials said the meeting was well attended by a majority of the 28 Victorian federal Labor MPs, and the decision was unanimous.

"Under the rules, no State branch can bind federal ALP members, but obviously after the significant turn-out of members today and the unanimous vote, we would be surprised if they did not support the branch's view in Caucus," the branch secretary, Mr Peter Batchelor, said.

The Victorian MPs represent more than a quarter of the 105 members of Caucus.

The move follows a resolution on uranium policy passed by the Victorian branch administrative committee on September 9 calling for no

federal decision on federal departmental committee inquiries on the issue until there has been full and public debate in the Caucus, in the party and the community.

Questioning

Opposition to uranium mining and exports is stronger in the Victorian ALP than in any other State. Officials believe the Government is planning to expand mining and uranium sales.

The Australian Conservation Foundation also called at the weekend for the inter-departmental report on uranium mining to be made public.

The uranium export issue blew up again last week when:

IT WAS disclosed that the inter-departmental report prepared for the Cabinet suggested that the export policy option pressed by the Prime Minister, Mr Hawke, could triple uranium exports by 1992.

THE Minister for Resources and Energy, Senator Walsh, came under persistent questioning from Senator Sir John Carrick during sittings of the Senate Estimates Committee.

At stake is the question of further exports from the Ranger and Nabarlek mines in the Northern Territory and the development of the Roxby Downs copper, gold and uranium mine in South Australia.

Debate in Parliament

Perth THE WEST AUSTRALIAN in English 21 Sep 83 p 11

[Text]

CANBERRA: The Opposition yesterday attacked the Government's uranium policy and accused the Government of confusion and contradiction.

The National Party leader, Mr Anthony, said that the Prime Minister, Mr Hawke, and other Cabinet ministers were afraid to defy the left wing of the Labor Party over the uranium issue.

He said that, by choosing to defer any decision on the uranium policy for about a month, Mr Hawke had caved in to the Left.

"No one knows what the Government's uranium policy is or whether it has a policy at all," Mr Anthony told the House of Representatives.

In the Senate the Opposition Leader and resources spokesman, Senator Chaney, said that Labor Party factional interests were put ahead of the national interest.

But the Minister for Minerals and Energy, Senator Walsh, defended the deferment,

saying that the Government would not be stampeded into a premature decision.

Because of the depressed state of the uranium industry, Government pricing requirements could not be met for additional sales.

The Deputy Prime Minister, Mr Bowen, said that the Opposition wanted to open further uranium mines when the existing two mines could not sell their production.

Replying to Mr Anthony he said that the National Party's philosophy on selling minerals was to "dig them out of the ground and flog them off at any price."

Assured

Mr Anthony said that the uranium industry had been on a path of assured development and growth when the Federal election was held but was now thrown into confusion.

The Government was afraid to back uranium mining despite the support of two thirds of Australians and advice in favour of mining from all major government departments.

Mr Anthony said: "Unfortunately for Australia, while the Prime Minister plays politics with this issue the world is moving."

He said the latest figures showed that nuclear-power capacity would grow by an average of 12.9 per cent a year until 1990 and that production and consumption of uranium ore would be in balance by 1988.

"There can be no excuse for this policy to last a moment longer," he said.

"The Government deserves the fullest condemnation of this House and the nation unless it moves immediately to return to the rational, careful and effective policies put into place by the former Government."

Sydney THE AUSTRALIAN in English 22 Sep 83 pp 1, 2

[Article by Brian Hill]

[Text]

THE Prime Minister, Mr Hawke, yesterday angered many in his party by forthright statements in support of uranium mining.

The strongest statements were attributed to him by the United States consumer affairs advocate, Mr Ralph Nader, who saw Mr Hawke in the morning.

Mr Hawke attacked the anti-uranium lobby head-on when he told Parliament he believed the Roxby Downs project would proceed unhindered.

Speaking without the authority of Cabinet or Caucus, Mr Hawke said he expected a government decision would be made soon on the ALP's uranium policy - and Roxby Downs was unlikely to be affected.

He predicted the parliamentary Labor Party would swing behind him on the issue.

According to Mr Nader, Mr Hawke said it would be "immoral" to keep uranium in the ground.

Mr Nader told the National Press Club in Canberra that Mr Hawke had told him uranium mining would bring much-needed investment to Australia and "a lot of good things can be done for the people as a result".

Discussion

He claimed Mr Hawke said uranium mining would produce more jobs, and that Australia "owes it to the world" to be a responsible participant in the nuclear fuel cycle.

Mr Hawke's remarks have sent shock-waves through the Labor Party, which is still considering its position on uranium.

He was expected to have difficulty with the party's Left over the issue, but his way of handling it is now angering even pro-uranium supporters.

One prominent left-wing member, Mr Gerry Hand, said last night: "If Hawke said that, it is very disappointing indeed."

"The issue of uranium mining will be decided by the

party as a whole, and not by one person."

Another left-wing member said: "No-one will pre-empt whatever decision we finally make."

Cabinet postponed a discussion on uranium this week and the question will now not come before the full Caucus for at least another fortnight.

Mr Hawke has said privately he supports further uranium development and export, particularly from Roxby Downs and the Northern Territory, and he is believed to have the numbers to push such a motion through Caucus.

But this would incur the wrath of Labor members from all factions who are opposed to the mining and export of uranium. Senior Labor figures are working on a compromise.

Mr Nader said he was "sad" about Mr Hawke's stand.

But a spokesman for Mr Hawke retorted: "Mr Nader's comments are not a complete report of the discussion with the Prime Minister."

"They are a colored version of the discussion, and unlike Mr Nader, the Prime Minister will not be discussing details of confidential discussions."

The exchange of words topped off a stormy day for Mr Hawke on uranium.

During Question Time in the House of Representatives, he appeared to pre-empt the Government's decision by saying he believed the Roxby Downs project would go ahead.

He said he expected a decision to be made on the total review of uranium policy by the end of August, but ruled out Roxby Downs as one of the projects likely to be affected.

The Government is under pressure to support the ALP's existing policy which seeks a phasing out of the industry with no new mines or export contracts.

Mr Hawke has claimed Roxby Downs is an existing mine and the Government's decision will not affect mining projects already under way.

However, in the policy shake-up factions are pushing for

the South Australian project to be reconsidered.

During Question Time, Mr Hawke came under Opposition pressure to clarify the Government's position and explain apparent discrepancies between his statements and those made by the Minister for Trade and Resources, Senator Walsh.

Mr Hawke gave an assurance that Roxby Downs would go ahead during a speech to the Business Council of Australia earlier this month.

He said yesterday he had expressed to the council the belief of what he interpreted the position of the Government would be, and that was that Roxby Downs would proceed.

"It's still my belief," Mr Hawke told Parliament.

Mr Hawke said there was no secret that on the issue of uranium there were differences of opinion in the Labor Party.

"Within the government party there will be a series of discussions in the Cabinet, in the Caucus, and the position of the Government will emerge from that," he said.

Mr Nader made no secret of his disappointment at Mr Hawke's attitude on "the touchy subject of uranium mining" when he addressed the National Press Club.

Speaking soon after his hour-long meeting at Parliament House, Mr Nader said: "In my conversation with the Prime Minister he made three points, with an umbrella.

"The umbrella was that it would be immoral to keep the uranium in the ground here in Australia, for three reasons.

"One is it brings investment into Australia, and a lot of good things can be done for the people as a result.

"Two, Australia also owes it to the world to be a responsible participant in the nuclear

fuel cycle and try to counter-act the South Africans.

"And thirdly, it produces jobs here in Australia.

"I did try to get a word in edgeways.

Restrictions

"But it was quite clear he had made up his mind and it was quite clear to me that if the entire nuclear industry outside of Australia wanted Australia to supply 100 per cent of its uranium requirement, then Mr Hawke would not be opposed.

"Mr Hawke is a conciliator and a compromiser and he'll probably cut the difference with those of his party who want some sort of restrictions.

"But I think it is disappointing from an American's point of view — especially from someone who comes from a country who started this lethal technology and unleashed the nuclear fuel cycle, and now is trying under the Reagan administration to promote a trade in plutonium.

"But it is a little sad because we in the United States tend to get great heart and great support from smaller countries who take moral stands."

Last night the Leader of the Opposition, Mr Peacock, claimed Mr Hawke and the Labor Government had made "yet another U-turn" on its uranium policy.

He said Mr Hawke had admitted his statement at the business council that it was government policy that Roxby Downs proceed was "nothing more" than Mr Hawke's opinion.

"Mr Hawke has one version for businessmen and another version when talking in front of Labor Party members," Mr Peacock said.

VICE-PREMIER LI PENG MEETS FRENCH OFFICIAL ON NUCLEAR COOPERATION

LDZ12342 Beijing XINHUA in English 1425 GMT 21 Oct 83

[Text] Beijing, October 21 (XINHUA) -- Chinese Vice-Premier Li Peng said here today that the Chinese Government would implement in earnest the memorandum signed between China and France last May on cooperation in nuclear technology.

He made these remarks at a meeting this afternoon with Gerard Renon, chairman of the French Nuclear Energy Committee and member of a French exhibition delegation on nuclear technology.

According to the memorandum, China will build atomic reactors for nuclear power stations with French equipment and technology, and will master the nuclear technology involved through co-production with France.

After working hard in the past few months, the vice-premier said, the two parties have achieved some fruitful results. He hopes that the cooperation would continue to develop. He noted that China wanted to accelerate the construction of nuclear power stations provided that quality is ensured.

In his speech, Gerard Renon said that France has begun cooperating with China in the field of nuclear technology and hoped to establish long-term cooperation in this field. Gerard Renon and his party came to China for a friendly visit and for attending the opening ceremony of a French exhibition on nuclear technology yesterday. The French guests have visited Guangzhou, Shanghai and Beijing and will leave here for home tomorrow.

Present on the occasion were Jiang Xinxiong, Chinese minister of nuclear industry, Wang Yaoting, chairman of the China Council for the Promotion of International Trade and Charles Malo, French ambassador to China.

CSO: 5100/4102

PEOPLE'S REPUBLIC OF CHINA

EUROMISSILE ISSUE STRAINING U.S.-FRG TIES

07042132 Beijing XINHUA In English 1616 GMT 4 Nov 83

"News Analysis: Bonn-Washington Relations Face Test Over Missile Control" -- XINHUA headline.

[Text] Bonn, November 3 (XINHUA Correspondent via Tsimian) -- With the scheduled deployment of new U.S. missiles on West German soil only a few weeks away, West Germans are worried if their government will have any say over possible future launching of these deadly weapons. This uneasiness seems to be growing and putting West German-U.S. relations to a test. Reports indicate that Britain and Italy, which will also have new U.S. missiles based on their soil, have gained from the Americans a vetoing power on how these medium-range missiles are to be used. Naturally, the West German opposition, the Social Democrats and the Greens demand a similar say on the trigger.

In a telegram sent to Chancellor Helmut Kohl on October 31, the Green Party asked if the Federal Republic enjoys the same veto as that of Britain and Italy, very not make it public! If the republic does not, why this inequality among NATO allies? The Social Democrats, who form the biggest opposition party, made it clear yesterday that they want nothing less than the veto power. The Federal Republic has committed itself to having biggest share of the controversial Euro-missiles.

Karlson Wigt, an arms control expert of the Social Democratic Party, has said that in demanding some trigger control, his party is not seeking joint ownership of these nuclear weapons. What it is after is some control of a safety valve nature so as to be able to prevent a nuclear conflict whenever necessary, he explained.

Explaining the government position, spokesman Suedhof said that the FRG does not want a dual-key control system nor veto power over the launching of the nuclear weapons deployed in its territory. He listed differences between the FRG and Britain: FRG has renounced the right to possess nuclear arms, while Britain has its own nuclear weapons; the FRG is a member of the consultative institution of the West, while the veto-power accord between the Britain and the United States existed much earlier than the consultative institution came into being. Therefore, there is no need for the FRG to press for such an accord.

However, this does not mean that the ruling parties have willingly renounced the veto power. In fact, it was Franz Josef Strauss, chairman of the Christian Social Union, and not the leader of any opposition party, who first suggested the idea of a dual-key control system. In an interview with the weekly STERN in early August, Strauss stressed the need for a dual-key control system which means that Federal Germany will possess the second key for the launching of those missiles deployed in the country. While not objecting to Strauss' proposal, Chancellor Kohl said in an interview on August 12 that he could hardly see any opportunities to put this proposal into practice.

Considering the powerful military strength of superpower in Europe, the special status of Federal Germany after World War II and its close economic relations with the United States, it is understandable that the government cannot take the same stand as the opposition party's on the issue. However, the question of the dual-key control system really reflects the big differences between Federal Germany and the United States in their interests as a result of their different positions. Especially after the U.S. invasion of Grenada, many German politicians feel more uncertain about the U.S. policy. They naturally raise the question: in view of the fact that the U.S. could send troops to Grenada without consultation with its allies, will the U.S. launch its nuclear missiles from Europe without advance consultation with West European countries? FRANKFURTER RUNDSCHAU said in a commentary on November 2 that Federal Germany hold a "second key" not only to the launching of missiles but also to the formulation of the overall Western policy. [sentence as received]. The current situation seemed to indicate that not only the Federal German-U.S. relations but also the relations between West European countries and the U.S. will face a new test.

CSO: 5100/4103

PEOPLE'S REPUBLIC OF CHINA

PRC UN ENVOY CRITICIZES NONPROLIFERATION TREATY

OW051156 Beijing XINHUA in English 1137 GMT 5 Nov 83

[Text] United Nations, November 4 (XINHUA) -- China remains critical of the treaty on the non-proliferation of nuclear weapons for its discriminatory nature, but it respects the desire of many non-nuclear-weapon states to prohibit testing, producing, acquiring and using nuclear weapons. Chinese Ambassador Qian Jiadong to the United Nations made this statement before the U.N. General Assembly session this afternoon to discuss the report of the International Atomic Energy Agency (IAEA).

The People's Republic of China, a new member of the IAEA, accepts the IAEA statute and will fulfill its obligations, Qian said. Starting from such a stand, the Chinese ambassador took issue with the fact that after the founding of the People's Republic of China, Taiwan, part of China's territory, had joined the agency and signed the nuclear non-proliferation treaty, usurping the name of China. This, he said, is entirely illegal and invalid. Qian said that this was a violation of the 1971 resolution adopted by the board of governors of the agency which explicitly "recognizes that the government of the People's Republic of China is the only government which has the right to represent China in the International Atomic Energy Agency." In the light of this resolution and Resolution 2758 adopted by the U.N. General Assembly, Ambassador Qian called on the IAEA to rearrange its safeguard relationship with Taiwan in such a way as to make it non-governmental. Referring to international cooperation on peaceful uses of nuclear energy, Qian said China will take into account the relevant provisions of the statute, including those concerning safeguards.

CSO: 5100/4103

ENGINEERING ASPECTS OF NUCLEAR POWER DEVELOPMENT DISCUSSED

Prague SVET HOSPODARSTVI in Czech 1 Sep 83 pp 1, 2

[Article by Engineer Jiri Chroustovsky, Technical and Economic Institute of Heavy Engineering: "For the Development of Nuclear Power Generation. High Requirements Regarding the Quality, Precision and Operational Reliability of the Products"]

[Text] One of the global, worldwide problems of mankind at the end of the 20th century is to ensure sufficient sources of energy. The Czechoslovak economy, too, is confronted with this problem. The studies to date on the development of the individual items within the fuel and power balance through the year 2000 point out a series of facts. First of all, the fact must be taken into consideration that our republic still has reserves of brown coal that will suffice, at the present level of consumption, for about 30 years. With the gradual depletion of the coal deposits, however, both the annual production volume and the quality of the coal mined will decline. So far as refined fuels are concerned, we must rely on import. We expect to import less petroleum than what was available in 1980. At the same time, deliveries of natural gas will increase somewhat, but they will account for less than 10 percent of the overall increase in sources of energy expected in 1980-2000.

One source of energy capable of long-term dynamic development in Czechoslovakia is nuclear energy. Not only at present but also during the next 50 years, therefore, it is practically the only possibility for increasing our primary sources of energy, and it has a unique role in this process. Which of course does not mean that we will not continue to devote attention to further possibilities for increasing our sources of energy, especially by rationalizing the structure of consumption and saving energy in the Czechoslovak economy, and also by developing the nonconventional sources of energy. Of basic importance for gaining additional sources of energy, however, is the development of the nuclear power-generating complex in the CSSR.

The basic time limits of the schedule for building nuclear generating capacities in Czechoslovakia are contained in State Target Program No 01 (hereinafter STP-01). It anticipates that by 1990 Czechoslovakia will have placed in operation a total of 6280 MWe of generating capacity in nuclear power plants. This will consist of twelve VVER-440 [water-cooled, water-moderated power reactor] generating units in Bohunice, Dukovany and Mochovce, and of one VVER-1000 generating unit in Temelin near Ceske Budejovice. In conjunction with

these objectives, the FMEP [Federal Ministry of the Electrotechnical Industry] expects to install between 12,280 and 15,280 MWe of generating capacity by the year 2000. An amended version of STP-01 is to be approved by the federal government in the immediate future, in conjunction with the long-range forecast of the national economy's development through the year 1995.

Now let us examine more closely the position of Czechoslovak nuclear power engineering, in conjunction with the construction of the nuclear power-generating complex in the CSSR. Substantively the problems of Czechoslovak nuclear power engineering's tasks fall into two basic spheres. The first is the development of the nuclear power-generating complex itself. This includes primarily the supply of nuclear generating equipment, installation work, repairs and services at the construction sites of the Czechoslovak nuclear power plants; maintaining trouble-free operation of the nuclear and accompanying conventional equipment; liquidation of the nuclear power plants whose service life has run out; safety inspections; repairs and reconstruction, etc. The other sphere comprises the internal problems of engineering itself. The most important of these include: the establishment of production, installation, planning and design capacities; the requirements for exporting nuclear power-generating equipment; achieving the national economic efficiency of export; efforts to produce highly efficient subassemblies not specialized as yet within CEMA, in order to better load our own production capacities; safeguards for the safe operation of nuclear power-generating equipment; the mastering of new technologies; the training of highly qualified cadres, etc.

An unsolved problem remains that for the time being Czechoslovak nuclear engineering regards its supplier obligations toward the nuclear power-generating complex primarily as manufacturer and supplier of subassemblies, i.e., in a material sense. Actually it will have to substantially expand, technologically and as contractor, to include supplier software. This will primarily mean providing supplier documentation and services, which are an enormous problem even for the largest world suppliers. There is no reason to believe that the situation will be any different also for Czechoslovak nuclear engineering.

Thanks to its developed nuclear engineering, Czechoslovakia is one of the few countries in the world that have mastered the technology of producing nuclear power-generating equipment on an industrial scale. This conclusion applies to most of the equipment in the primary circuit, practically all of the equipment in the secondary circuit, and to the control and operating system of a power plant with nuclear reactors of the VVER-440 type. It will unquestionably apply in the near future also to the VVER-1000 type, and certainly to the equipment of the nuclear heating plants if Czechoslovak district heating decides to go nuclear. Czechoslovak nuclear engineering is even manufacturing some of the subassemblies for the Soviet experimental fast breeder reactor.

The Skoda Concern is the general contractor of the technology for nuclear power plants. The largest volume of equipment for nuclear power plants is produced there. Specifically this includes equipment for the primary and secondary circuits, or in other words the reactor vessel itself; the machine room; the turbine sets; the heat-exchanger station; the technological systems for materials handling, etc. Certain other economic production units in heavy engineering are supplying final products for nuclear power generation. The

Vitkovice Concern is supplying steam generators for the secondary circuit. CKD [Ceskomoravská-Kolben-Danek] of Prague is supplying equipment for the compressor stations and diesel generators. Chepos is producing the equipment for the emergency and auxiliary systems, and the mechanical equipment of the nuclear waste storage sites. The Sigma Concern is supplying pumps, fixtures and pipes for the pump stations and decontamination stations, piping, etc. Československé Vzdušné technické Zavody (Czechoslovak Air Engineering Works) is supplying all the air engineering systems operating in a nuclear power plant. CKD Prague is the final supplier of the water-treatment systems.

In addition to the production organizations in heavy engineering, the economic production units of the electrotechnical industry likewise supply final deliveries for nuclear power plants. The ZSE [High-Voltage Electrical Engineering Plants] Concern supplies electrical equipment and cables. Tesla MLP [Measuring and Laboratory Instruments] supplies laboratory equipment. And the ZAVT [Automation and Computer Technology Works] Economic Production Unit supplies regulation and control systems.

Within the Federal Ministry of General Engineering, the CAZ [Czechoslovak Automobile Works] Concern supplies firefighting equipment.

In view of Czechoslovak nuclear engineering's existing production capacities, the construction of which required fairly substantial investment outlays, it is understandably a primary concern of the Czechoslovak national economy to fully utilize these capacities so as to recover the investment costs as soon as possible. Because the supply of equipment for the development of the Czechoslovak nuclear power-generating complex does not fully load these capacities, it is desirable to export nuclear generating equipment. Czechoslovak nuclear engineering's basic export tasks stem from the 1979 agreement on CEMA specialization. The provisions of this agreement, which covers the 1981-1985 period, have been redefined in an amendment that takes into consideration the fairly substantial slippage in actual construction as compared with the plan. The amendment for 1985-1990 is now being drafted, with the understanding that it is to be signed during 1983. Czechoslovak nuclear engineering does not have any documents for the periods of the 9th and 10th Five-Year Plans. Evidently this is due to a general reassessment of the need for, and the construction volume of, nuclear power plants in every CEMA country. Determination of the deliveries for 1990-2000 is only now being prepared, but first the multilateral specialization agreement through 1990 must be made more precise, and then on its basis the structure of deliveries through the year 2000.

From the CEMA specialization agreement it follows that for the 440-MW generating units Czechoslovakia is to export the reactors, the steam turbine sets and their accessories, the special fixtures and the steam separators; for the 1000-MW generating units, however, we are to export only the reactors, special fixtures, steam separators, and electronic apparatus. Czechoslovak nuclear engineering's export production did not begin on the basis of 1979 CEMA specialization agreement, but on the basis of an earlier, 1975 bilateral agreement between Czechoslovakia and the Soviet Union specifying Czechoslovak industry's cooperation in the realization of Soviet deliveries of equipment for nuclear power plants. Pursuant to this bilateral agreement, Czechoslovakia produced for export the first steam generators, and also the first pressurizers whose

production was transferred subsequently to the Polish People's Republic. In conjunction with the fact that since the early 1980's also other CEMA countries have been showing increasing interest in producing and supplying equipment for nuclear power plants and have been gaining the ability to do so, and because there is a gradual reassessment of the fast rates set originally for the construction of nuclear power plants, demand for the export of Czechoslovak nuclear power-generating equipment is likewise declining.

The point then is that Czechoslovak nuclear engineering, in the further negotiations on specialization, must seek to take over the specialized production of items that up to now have not been specialized, and in the production of nuclear power-generating equipment must engage in new directions that it has not mastered so far. One specific possibility that can be cited is the production of the fuel elements' structural parts and their assembly in Czechoslovakia. Another possibility is to participate in the distant future in the research and development of structural elements and components for fast breeder reactors. In addition, every opportunity must be exploited to cooperate with the Soviet Union on deliveries for nuclear generating units in developing countries, which would offset at least partially the costs of importing special alloying additions, metallurgical semifinished products, production equipment, and automation and control products.

Development of the Czechoslovak nuclear power-generating complex is often associated only with the generation of electricity. However, its role does not end there, because the sources of nuclear energy are expected to participate also in supplying heat, for industrial use as well as for residential heating. By sources of nuclear energy for heat we mean primarily nuclear cogeneration plants, and nuclear heating plants. So far as nuclear cogeneration is concerned, Czechoslovak nuclear engineering is already equipping the Dukovany and Mochovce nuclear power plants with turbine sets that are able to supply between 10 and 100 percent of their output in the form of heat. In recent years, a model planning-and-design study was prepared in Czechoslovak-Soviet cooperation, on supplying heat from the VVER-1000 generating units of nuclear power plants. The results of this study will be utilized under the specific conditions in Czechoslovakia.

The localities suitable for nuclear heating but outside the technical and economic range of district heating are to be supplied from nuclear heating plants. Analyses show that under our conditions the optimal capacity per unit in nuclear heating plants is 150 to 200 MW. Approximately 10 to 15 such units will have to be placed in operation in 1995-2010. For Czechoslovak nuclear engineering, however, the problem remains that for the time being the Soviet Union is not considering nuclear heating plants with units of less than 500 MW.

In view of the fact that the problem of nuclear heating plants, and of nuclear sources of heat in general, represents a basic conceptual decision for the outlook of district heating in Czechoslovakia, it will be necessary to discuss these questions at the level of all participating ministries and the State Planning Office, and finally with the Soviet side, and to complete the elaboration of the concept of using nuclear sources of heat in Czechoslovakia.

In the interest of maintaining technological progress in the production of nuclear power-generating equipment, we must continue to concern ourselves with

the research and development of selected components, and with the problems of mastering the technology of fast breeder reactors. Czechoslovak nuclear engineering has already provided some deliveries for the experimental fast breeder reactors in the Soviet Union. In view of the fact that the production of such equipment involves the mastering of new technologies, working with new materials and the solution of as yet unsolved engineering problems (for example, the coolant in fast breeder reactors is sodium, which is chemically very aggressive), Czechoslovak nuclear engineering wants to continue such deliveries and to expand their volume if possible. These deliveries are the vehicles of technological progress, mobilize innovation activity within entire engineering and are thus a significant factor of intensification.

Very serious is the economic problem of developing the Czechoslovak nuclear power-generating complex. It involves a volume of investment activity never before realized under the conditions in Czechoslovakia, with unprecedented demands on investment resources. The most serious problem is the rising capital intensity of nuclear power plants. This problem is not peculiar to Czechoslovakia alone; a similar trend is evident in every country where nuclear power generation is being built and developed.

Analyses and expert studies of the investment costs of building nuclear power plants in Czechoslovakia revealed that the specific investment cost in the early 1970's showed a moderately rising trend corresponding to a year-to-year increase of about 1.5 percent. By the mid-1970's, however, this rate of increase had already risen to 7 percent and continued to rise to the present 10-percent year-to-year increase of the specific investment cost. Which means that the investment cost per kilowatt of installed generating capacity rose from 5,000 to 5,500 korunas initially to between 10,000 to 11,000 korunas, or exactly double the original cost. Among the causes of this rising trend of the capital intensity we must mention particularly the following:

--The prices of foreign deliveries for our nuclear power plants are rising continuously, in accord with the rising prices of generating equipment on the world market;

--The requirements for nuclear safety are becoming more and more stringent. There are increasing requirements for environmental protection, quality control and operational reliability;

--The construction time is long, during which there are planning and design changes, new and usually stricter safety regulations are introduced, some of the equipment and instruments undergo fairly rapid innovation, the steel structures are changed, etc. Furthermore, with time the technological solutions for the construction of nuclear power plants are revised and improved, more costly construction technologies are introduced, the prices of nonstandard equipment are determined more accurately, etc.;

--The construction time limits are exceeded. This not only delays the date by which cheaper power can be generated, but it also ties down unproductively huge amounts of resources;

--The prices of alloying additions are rising sharply on the world market;

--As the construction sites gradually become less suitable, the costs rise;

--Designing some of the nuclear power plants in Czechoslovakia to withstand earthquakes makes for substantially higher costs; and

--The costs of nuclear fuel are rising.

Foreign sources list practically all these causes as the reasons of the rising specific investment cost in every country that is developing nuclear power generation.

In conclusion it can be said that the development of nuclear engineering is in agreement with the production structure of Czechoslovak engineering, as formulated in the conclusions of the 16th party congress and in other program documents of the party and government. At the same time it should be borne constantly in mind that nuclear engineering, in comparison with the other sectors of engineering, is more demanding in terms of learning and mastering new processing technologies, developing and realizing new designs, and in using challenging products and structural elements. There are basically stricter requirements regarding the quality, precision and operational reliability of the products. This in its entirety applies to metallurgy as well as to engineering itself.

1014

CSO: 5100/3001

CNEA CHIEF UNDERSCORES NUCLEAR TECHNOLOGY TRANSFER TO L. A.

Santiago ERCILLA in Spanish 28 Sep 83 pp 31-32

[Interview with Vice Adm Carlos Castro Madero, chairman of the Argentine National Atomic Energy Commission, by Andrea Orzegow in Santiago, Chile; 18 September 1983]

[Text] He deals directly with the Argentine president. And through him he gets the necessary financing. What is more, there are those who say that the activity he heads has priority in Argentina and that his country is in the forefront of Latin America, having outstripped Brazil in this sector.

Those who know him describe him as a "brilliant man." He is Vice Adm Carlos Castro Madero, 55, chairman of the Argentine National Atomic Energy Commission since 24 March 1976, who was in Chile last weekend.

Having been invited to the celebration of the 173rd anniversary of our country's independence, on Tuesday, 20 September, with his Chilean counterpart, Lt Gen Herman Brady, he signed the fifth reciprocal agreement on the peaceful use of nuclear energy. More specifically, to cooperate in the fields of fuel recycling and the production of heavy water:

"Chile," Castro Madero explained to the press on 18 September, "is attempting to develop in these fields where Argentina is advanced; and we feel that we can take advantage of this cooperative effort to obtain supplies of radioisotopes when our reactor is shut down."

For his part, Brady added, "They are going to cooperate with us in the personnel training sector." Then he reported on the mutual use of the nuclear power plants of both countries. The result? Argentina once again is going to use the Chilean La Reina reactor because the one it normally uses, the Ezeiza reactor, will be out of operation for some time due to maintenance problems.

However, the vice admiral's stay in the country was not only for practical purposes. As the day approached for the signing of the agreement, British reports reached the country to the effect that Argentina intended to build an atom bomb. The Argentina dignitary then spent part of his sojourn here to deny that rumor, which, moreover, is frequent and generalized.

After the "signatory" ceremony, he said, "The only spirit animating Argentina is the peaceful use of nuclear energy for development which is of benefit to the entire region."

Two hours later, he received ERCILLA in the Argentine embassy.

[Question] According to your own statements, Argentine policy is to integrate the entire South American region through joint cooperation in the field of nuclear technology. What benefit is it to you Argentines since your country is one of the most developed in Latin America in that field?

[Answer] It is true that Argentina is more developed; however, it has a moral obligation to transfer all its experience so that other countries, insofar as possible, will be able to avoid the mistakes that have already been made and to capitalize on the achievements.

It is useful for us when our reactor has to be given a general overhaul to have access to La Reina's isotopes; however, there is no "give and take" in the sense of determining who gives more and who gives less. This is an action that has to contribute to integration. And nuclear energy is a very important element in such integration: the fact that we are dealing with a recent development makes this a very opportune time for all of us Latin American countries to coordinate our activities in this field.

What is more, I think that cooperation in such an important field will undoubtedly promote exchanges of experts, scholarships and scientific visits...What we have here is cooperation on an equal basis, without seeking any kind of leadership role or hegemony.

[Question] Nevertheless, there are generalized comments to the effect that Argentine wants to have the leadership role in this sector.

[Answer] That all depends on what you mean by leadership role.

[Question] To want to be in the forefront in the field of peaceful nuclear technology, at least with respect to South America.

[Answer] Argentina is, in fact, in the forefront but not because it wants to be number one in Latin America: that would be a very petty objective. Argentina is in the forefront because it has given importance to nuclear energy and considers it to be a fundamental factor in the country's progress: to improve health and the quality of life of the republic's inhabitants.

[Question] Does Argentine technology permit the enrichment of uranium?

[Answer] No. We are developing the line of natural uranium and heavy water for our power plant.

[Question] Last week there was a news report in which President Reagan is said to have learned from intelligence sources that Argentina is buying enriched

uranium without the authorization of the international organizations. What do you say to that report?

[Answer] I say that it is totally false.

[Question] The United States also said more directly that you Argentines are planning to build an atom bomb.

[Answer] I will repeat: Argentina has a program exclusively oriented toward peaceful objectives, because it feels it should not divert scarce resources to a totally unproductive activity such as the bomb.

[Question] Of what does that "exclusively oriented toward peaceful objectives" consist?

[Answer] The construction of four nuclear power plants, the construction of a combustible fuels plant and a heavy water industrial plant. And the auxiliary installations which service all these plants.

[Question] If the objectives are peaceful, why have the Argentines not signed the Nuclear Nonproliferation Treaty?

[Answer] Like Chile, which also has not signed it, we feel that it is a discriminatory treaty. I think I am the only one who recognizes different responsibilities for countries which have built the bomb and those which have not. When the treaty was being written, Argentina described it as "the disarmament of the disarmed."

Later, when the treaty was applied, it was also discriminatory because the developed countries have not fulfilled their promise to freely transfer all the nuclear technology for peaceful purposes, which is required by the developing nations. They have created superior structures, such as the Club of London, which establishes regulations contrary to what was signed in the treaty. What is more they have also failed to make a maximum nuclear disarmament effort. All of us Latin American countries are in agreement that in order to prevent proliferation the definitive measure is for no one to have nuclear bombs.

[Question] What is your opinion of possible nuclear armament build-ups in Latin America so as not to be behind the nations which do have the atom bomb?

[Answer] Latin America should not make any effort in that direction because this would contribute to the disintegration of the region, as the countries that did not have the bomb would be defenseless vis-a-vis those that did. And in the second place important economic and human resources would be committed to an unproductive activity; and, therefore, all the problems of underdevelopment in Latin America would be aggravated.

Development of Joint Projects

[Question] Speaking of economic resources, Argentina is one of the region's leading countries in the nuclear technology sector. How do you reconcile this with the difficult financial situation you are going through?

[Answer] That is an independent matter. You can have very advanced nuclear development and eventually, because of the world situation or economic policies that have not been productive, you can have an economic crisis. That has now resulted in a delay of the nuclear program.

[Question] But it would also appear that Argentine nuclear development has been intensified in the past few years.

[Answer] It has indeed. Beginning in 1976, nuclear development was intensified because there was a progressive narrowing of the possibilities because of nonproliferation measures. Therefore, we had to make an effort to ensure the country's self-sufficiency and thus to defend itself from possible external coercion.

[Question] Now, getting back to the subject of regional integration, you Argentines seem to have many exchange agreements with Bolivia and, particularly, Peru. Of what do they consist?

[Answer] Cooperation with Peru is more extensive. We are installing a nuclear center 30 kilometers from Lima, consisting of a reactor to produce radioisotopes and their corresponding laboratories.

[Question] Why exactly in Peru?

[Answer] As I said before, Argentina's cooperation is with all the countries of Latin America, with a view to contributing to regional integration.

[Question] Does the same thing hold true for Chile, or is there some specific interest?

[Answer] We have an equal interest with respect to all of Latin America.

[Question] Do you have some specific future project with respect to Chile?

[Answer] First there is cooperation, information and technology transfer. I maintain that for real integration, we have to develop joint projects. And that will be a matter of time.

Although no question was asked, he added something more:

"I should like to place special emphasis on cooperation with Chile because we must contribute to the strengthening of our vehicles of friendship, fraternity and integration which are so useful to both countries. I also want to note that this Argentine desire to cooperate in Latin America is the most resounding refutation of all those who are saying our country is developing a nuclear military program. If that were true, the wisest thing would be for us to withdraw into ourselves and prevent Latin American professionals and scientists from observing or detecting this 'secret program,' as it is called in periodical publications. I think that is quite significant and very clear."

8143

CSO: 5100/2006

CASTRO MADERO ON AID TO ALGERIA, NUCLEAR SUBMARINE

PY250012 Buenos Aires DYN in Spanish 1353 GMT 24 Oct 83

[Text] Buenos Aires, 24 October (DYN)--Upon returning from Europe today, Vice Adm Carlos Castro Madero, the president of the National Atomic Energy Commission (CNEA), voiced his concern over the fact that some political parties have already expressed their intention of taking away the CNEA control of nuclear plants.

Castro Madero noted that if this measure is adopted, it will "considerably hinder the implementation of Argentina's nuclear plan, which is finally getting underway."

Speaking at Ezeiza Airport, Castro Madero also reported that Argentina will cooperate with Algeria in the area of radiology and in the preliminary studies for the erection of a nuclear plant in that country.

Castro Madero attended an International Atomic Energy Organization meeting held in Austria, where he met with Algeria's planning and mines ministers. Algeria asked for Argentina's assistance for its nuclear development projects.

Castro Madero also announced that the president of Algeria's Nuclear Energy Commission will visit Argentina next month, and that other agreements may be concluded on that occasion, in addition to the existing ones."

Concerning the CNEA budget, he said that "it is not big," although "it was necessary to slow down the implementation of projects due to the difficult economic situation."

Castro Madero said that the next government should "decide on whether to build an atomic submarine, and whether it will be possible to build one with the available resources."

The CNEA president estimated \$250 million as the cost of a nuclear power system for a medium-size submarine, but at the same time he ruled out that Argentina might build atomic weapons.

"The Argentine nuclear program is aimed at developing our capacity to generate electricity with nuclear energy, and the submarine may have been given too much attention because it was something new. But what we are doing is a theoretical study, which can in no way be compared with the efforts that are being made in other applications," he concluded.

PROBLEMS, PROGRESS IN NUCLEAR ENERGY PROGRAM

Messeldorf WIRTSCHAFTSWOCHEN in German 7 Oct 83 pp 40-41

Text: It seems that the rumors are unfounded that Brazil would let its plans for an ambitious nuclear program be cancelled because of its billions of dollars of debts. Now the Brazilian Central Bank is even putting an 800-million loan from the German Bank into the controversial project.

The managers of the Kraftwerk Union AG (KWU) have always seemed to be optimistic in their Brazilian business, despite many setbacks. Their perseverance appears to be paying off now. Although Brazil has the highest debts in the world at \$90 billion, the Central Bank is now putting another 800 million--which had been negotiated some years ago already with the German Bank--into a nuclear program which is being disputed not only in just this South-American state.

The unexpected boon of dollars will benefit above all the construction of the Angra II nuclear power plant in the vicinity of Rio de Janeiro, which had been commissioned in 1975 to the KWU within the context of a long-term project of nuclear-power-plant and technology transfer valued at up to 2.5 billion. Yet for a long time things had not looked at all good for the Siemens subsidiary, although so far it has supplied only know-how and engineering to Brazil, with the financial risks for the construction lying entirely with the Brazilian side.

While the Brazilian engineers are building the nuclear reactor Angra II, the Brazilian electricity suppliers are having only bad experiences with the sole reactor completed so far--that of the U. S. firm of Westinghouse.

Since the nuclear power plant Angra I supplied by Westinghouse was put into operation on 12 March 1982, it has been shut down more often than it has been operational, because of problems with the steam generators. At present the reactor is managing to produce no more than 30 percent of its possible output of 625 megawatts. By the middle of October, the plant is to be running at 50 percent of its capacity, and not until January will it come up to full speed. But also the KWU has had difficulties in Brazil. However, a misarrying of the Brazil projects would have only psychological effects on the selling of power plants. Because the financing risk reverts to a banking consortium under the leadership of the Dresden Bank.

Since 1977 the Brazilian power-plant builders have been working all these years on nothing but the foundation for Angra II. In the "Basin of the Stinking Stone," as the inhabitants call this wild territory, the geologists had been taken in by a fallacy. Since the soundings of the earth and the test drillings for the American power plant had detected solid rock just under the surface of the earth for the site of the Westinghouse power plant, the nearby terrain planned for the construction of the Angra II power plant had not been sounded thoroughly enough. Because directly next to the U. S. reactor, the rock formation abruptly breaks off. The nuclear reactor would have had to be constructed in the sand. Therefore 1,620 gigantic concrete pillars--1.20 meters thick and 40 meters long--had to be sunk down to a massive rock shelf and connected by concrete plates meters thick. It is said that the mistake of the geologists cost the Brazilians 650 million marks by 1981 already.

Nevertheless the KWU technicians believe today that the reactor can go on line by 1988, with a delay of 5 years. KWU spokesman Joachim Hospe: "After the Brazilians have overcome the difficulties and have mastered the problems of overground and underground construction, we do not see any reason for further delays." The power-plant planners also seem optimistic about Angra III, which is supposed to be finished in 1990. Yet with this project as well--like Angra II a 1,300-megawatt reactor of the same type as the Biblis nuclear power plant--there have been departures from the original planning. Although it had been planned to lie directly beside Angra II, following the other costly experiences it had to be shifted a kilometer further toward the southern end of the basin, which is narrow in any case. Tens of thousands of cubic meters of rock were cleared away in order to obtain a sufficiently large platform for the reactor.

In view of the billions of dollars of debts, such unexpected cost explosions have been grist to the mill of the opponents of nuclear power in Brazil. These regard this expensive nuclear program as entirely superfluous simply because enough electricity could be generated from water power already.

Yet in the past months things have become notably more quiet with the opponents of the German-Brazilian agreement, because the governing military has availed itself of some politically clever moves. Thus, the most important representative of the nuclear-power opponents, Jose Goldenberg, has meanwhile been promoted to the post of chairman of the Sao Paulo electric-power system and has forgotten the former battle issue over this.

Moreover the military has continued to let reports be disseminated over the radio and television stations about cancellations in the nuclear program. Even in the FRG these news reports were heard, and the talk was of a setback and of financial disappointment. Yet what was involved was nothing more than a postponement of the program, among other things because of an already falling electricity consumption. The only effect is that the construction of a third and fourth nuclear reactor planned by the KWU is now being delayed by a year.

In any case, decisions are to be made about other projects of the eight reactors earmarked in the 1975 program only following the official term of

office of President Joao Baptista de Oliveira Figueiredo in 1985. Thus Wolfgang Breyer, head of the KWU office in Rio de Janeiro, believes that the "decision-making authorities" of the Brazilian government are not thinking at all of abandoning the nuclear program because of the financial crisis.

Because the main purpose of the program is said to be above all the mastering of nuclear technology, and not the generation of electricity, as the official government version has it. If with the aid of German blueprints the constructing of nuclear power plants could be finally grasped, Brazilian businesses would like to make an appearance as exporters themselves, in order to fill up the meager foreign-exchange coffers once more.

But whether this is the primary reason for the ambitious program is widely doubted. Although in 1975 Brazil pledged that it would not use the nuclear knowledge going to it from the German-Brazilian contract for the purposes of constructing an atomic bomb, nevertheless the United States above all does not rule out such a constructing, and therefore it is stubbornly refusing to supply it with any reprocessing facilities. And on Friday of last week the American House of Representatives approved an amendment according to which restrictions are provided for nuclear exports to countries without documented protective guarantees, to guard against the further proliferation of nuclear weapons. Thus the new law forbids the supplying of radioactive fuel for nuclear reactors and of other fissionable material to countries which refuse to submit their nuclear facilities to an international monitoring for signs of weapons productions.

The American fears are not without cause. For as long as since the beginning of the 1950's, Brazil's southern neighbor Argentina has been pursuing unobtrusively but resolutely a stepped-up nuclear policy. But there is a traditional rivalry between the two states. Thus, since 1974 Argentina has turned out a nuclear power plant Atucha I completely supplied by the KWU which has had no operating troubles, and the nuclear reactor Atucha II is nearing completion. It is true that the government in Buenos Aires also denies that it is building an atomic bomb. However, neither Brazil nor Argentina has signed the non-proliferation treaty on nuclear weapons.

12114

CEO: 5100/2510

BRIEFS

REACTOR COMPONENTS ARRIVE--The first major consignment of the components of BMW Triga Mark-II Research Reactor to be installed in Atomic Energy Research Establishment, Savar arrived Wednesday at the Chittagong Port. This was disclosed by Dr. Anwar Hossain, Chairman, Bangladesh Atomic Energy Commission while he was giving thanks to Dr. C. N. Desai, an experienced Radio-pharmaceutical Chemist from India, says a press release. Dr. Dasai who is visiting Bangladesh as an IAEA expert to advise the BAEC for its radioisotope production programme using the research reactor, was giving a talk on "Growth of Radioisotopes to the Status of Radiopharmaceuticals" Thursday in the auditorium of the Atomic Energy Centre, Dhaka. [Text] [Dhaka THE NEW NATION in English 3 Oct 83 p 3]

CSO: 5100/7009

NUCLEAR OPTION FOR ENERGY TERMED 'INEVITABLE'

Karachi DAWN in English 23 Oct 83 Business Supplement pp I, IV

[Article by Azim Kidwai: "Nuclear Option is Inevitable"]

[[Text]

THE 900mw Chashma nuclear power plant in the north seems to be falling behind schedule because the international bids against the tenders should have been under the searchlight by now.

The floating of tenders for an estimated project cost of Rs 17000 million got the green signal about this time last year and the bids should have been in hand by the middle of this year. The reactor is scheduled to be commissioned by 1989-90 according to the indications given by the Chairman, PAEC.

The Commission may be cautiously feeling its way in the venture, but in the process, the deadline may not be met unless the timetable for each step is kept under tight control.

The inescapable need of nuclear energy to fill a gap of 5,000 to 8,000mw between electricity supply and demand at the close of the century, catapulted Chashma into the energy scene. There seems to be no other options for the present but to go in for the hard technology and build nuclear plants to narrow the energy gap.

In the context of Pakistan, the point is hardly debatable. For nuclear plants of 600mw capacity and above can give electrical power at considerable lower cost as compared to electricity from an oil-fired station of the same capacity.

There may be misconceptions about the role of soft technologies and

the renewable resources like solar, bio-gas, wind, or bio-mass that they may turn into sources of commercial electricity. That is not going to be the shape of things for another few decades, if not later. They are, of course, much less capital-intensive, but in the present state of their art, there is no chance of their taking over generation of electricity for big urban communities or for industry.

Soft technologies

Seen in the framework of the dying years of the 20th century, such soft technologies have relevance only for small rural communities or the remote areas to which extending the grid is a very expensive proposition.

For countries like Pakistan that are not oil-rich, nor is their hydro potential likely to meet the demand of electrical power, at present the good option is nuclear.

The good option may not be an easy one though. Such hard technologies are laced with great sophistication, and transfer of such technologies overlaid with great constraints, mostly political with global overtones. Also come the economic bottlenecks in mustering the capital and the inevitable loans. The developing countries need also to have a fair industrial base if they are trying to go nuclear.

Plus points

In the case of Pakistan, there are some plus points when such con-

straints are under focus. The PAEC Chairman had said at the IAEA (International Atomic Energy Agency) general conference last year that "the basic infrastructure in terms of industry, manpower, and nuclear fuel for the future development and introduction of nuclear power has already been set up through the experience gained by the Commission in the fabrication of indigenous fuel for the 137mw nuclear power station, KANUPP, located in Karachi."

That is an asset that very few developing countries have, and if the potential could be exploited, nuclear power could contribute decisively in meeting the country's energy need in the coming decades.

There are also other imperatives bidding Pakistan to go nuclear. At present, 60 per cent of our total foreign exchange earnings go for the import of oil. Also the gas reserves that should have been preserved as the raw material for chemical industries, are being burnt to generate electricity. Installation of nuclear power station would release the pressure on both.

Light or heavy water?

The 900mw project at Chashma is to be a light water reactor unlike KANUPP that employs heavy water as moderator (to slow down the neutrons) and coolant. The choice has perhaps been made because a great majority of the power plants around the world, are light water reactors. In fact, they have been termed as the "workhorse" of nuclear fission power.

In the world markets, one can though also shop for the Canadian design CANDU (KANUPP is one) reactors, or the British gas-cooled variety, or even the Russian VVOR type reactors. But in commercial terms, the light water reactors (LWR), now seem to score when everything is taken into account.

Maybe, things are in their present shape by design. While the CANDU type reactors use natural uranium as fuel and fabricating the fuel is within reach of some of the developing countries (Pakistan has done it for KANUPP), such countries find themselves almost helpless in the case of LWRs. These reactors use enriched uranium as fuel which no developing country

(except China) has in its inventory (Pakistan is making an endeavour to develop capability for uranium enrichment; India thinks it is beyond its capability, the task is so tremendous according to Indian AEC chief, Dr Sathna who has recently retired).

So, if a developing nation has installed a LWR, it is at the mercy of others unless it has developed the capability to enrich uranium (enrichment means raising the percentage of Uranium-235 from less than one per cent found in natural uranium to say, 3 to 4 per cent at least, to be used as reactor fuel).

Breeder reactor

One cannot, however, ignore the future when commercial nuclear power plants are under focus. The reactors, of the future are known as breeder reactors. Prototypes of these are already working in France, UK, USA and USSR. But they are still in experimental stage and may not get commercial within this century.

The beauty of the breeder reactors is, as their name signifies, that they can as well breed fuel amply while burning their nuclear fuel. The rather surprising end result is that they produce more of nuclear fuel than they consume. In a way, they are nuclear fuel factories and could be a means of supplying almost unlimited nuclear fuel to this energy hungry world.

Recently, France has built the biggest breeder yet, a 1200MW reactor as a test model in a bid to take the lead in this technology.

India also has an ambitious breeder programme in a new direction. It wants to use its vast thorium deposits for the purpose.

Cost and the lobby

The main constraints against breeders, for the present, are their cost, and the growing lobby against things nuclear that are hazardous or could help in proliferation of nuclear materials.

The cost of the breeder reactors at present comes to about 50 per cent more than the traditional reactors. And the physics of the breeder is akin to that of the bomb.

It is thus more hazardous. The breeder also produces plutonium galore that could lead to proliferation.

Nevertheless, being a breeder, its advantage as a fuel producing factory, may compellingly bring it to the fore as the energy needs of the world grow and the uranium deposits show signs of depletion, say, by the dawn of the 21st century.

The natural uranium is limited in the crust of the earth, estimated to be 4.3 to 4.8 million tons (excluding USSR, China and Eastern Europe, for which reliable figure are not available).

Hybrid reactors

There is yet another class of nuclear reactors that are over the horizon, but have to be taken into account. Their contours were unfolded by a Turkish scientist at the Nathiagali Summer College of PAEC, in July last. They are called hybrid reactors, using both nuclear fission (the atomic bomb phenomenon) and fusion (the hydrogen bomb reaction). They could also be a source of unending supply of nuclear electricity.

But no hybrid reactor has so far been built, and they are still being conceived or in a blueprint stage.

Pakistan needs starting studies on breeder reactors with an eye on the future. The hybrid reactors also have to be kept in view.

Developing countries, including Pakistan, are falling behind the projections made earlier for development of nuclear electricity. An IAEA study of 1979 shows that by 1984 "the installed nuclear capacity would rise to only 25,937 MW in 17 developing countries, far too less than the earlier forecasts".

There are now indications that even that target may not be met!

KOEBERG STARTS TAKING IN FUEL FOR REACTOR NO 1

Johannesburg THE CITIZEN in English 31 Oct 83 p 11

[Text]

KOEBERG. — Fuel loading on Unit One of the Koeberg nuclear power station began on Saturday, Mr G F Hellstrom, Ecom's regional manager for the Western Cape, said yesterday.

The process will take about 14 days and involves the removal of 157 fuel assemblies from storage pods and then placing them in the reactor vessel.

The entire operation is carried out under water by remote control and takes place within the confines of the reactor containment building.

Monitoring

Mr Hellstrom said the fuel-loading process was supervised and controlled by a team of highly qualified and trained Ecom personnel who had been approved by the Atomic Energy Corporation. The corporation will monitor the process.

He added that the construction of this first reactor unit was now complete and access by the construction workforce would be substantially reduced.

The commissioning activities, which had been continuing for the past eight months, the procedural matters, chemical and radiological controls, routine testing and maintenance programmes, security arrangements and

supporting services, had now been developed sufficiently for Ecom to be satisfied that it was safe to allow fuel-loading to take place.

Inspection

Approval had been sought from the Atomic Energy Corporation to proceed with this important step in the process of starting up the plant and had recently been granted.

Since the start of construction, the Koeberg project had been subject to inspection by the safeguards division of the Vienna-based International Atomic Energy Agency.

Since fuel arrived on site, these inspections had been intensified and comprised regular visits by IAEA inspectors as well as monitoring by sealed surveillance cameras in the reactor and fuel areas.

The IAEA-sealed cameras installed in the reactor and fuel buildings will monitor all fuel movement activities from now on for the life of the power station.

After fuel-loading, but before commercial operation, the reactor will be subjected to further tests as part of the overall commissioning programme.

According to the present schedule Unit One will be fully operational before the winter of 1984.

KOEBERG WASTE SEEN 'THREAT' TO WATERSHEDS

Cape Town THE CAPE TIMES in English 22 Oct 83 p 3

[Text]

NUCLEAR waste from the Koeberg power station could threaten future water supplies for Atlantis — and possibly even the supplies for Cape Town.

This was claimed yesterday at the SA Institute of Civil Engineers' seventh quinquennial convention.

The power station was too close to the watershed for the Atlantis groundwater supply, and other watersheds in the area for water supply dams, said Professor A D W Sparks, of UCT's department of civil engineering.

Professor Sparks said the nuclear plant should have been sited farther away, to the north of Saldanha Bay. "It seems unrealistic to state that all nuclear waste will fall within 16km of a nuclear site, especially in an area of high wind speeds."

"It is essential to study the wind patterns in relation to the important watersheds for the urban areas. The Koe-

berg plant seems to be too close to the watersheds for the Cape Town and Atlantis groundwater supply."

Later in the convention, it was considered "fortunate" that the Atlantis urban area was sited on this groundwater resource, which, "with suitable development", could provide much of the city's requirements.

This was said in the Atlantis session by Mr J A Clarke, deputy engineer of the Cape Divisional Council, and Mr B R Olmstead, a Cape Town civil engineer.

They said a Department of Water Affairs' survey of the Atlantis watershed disclosed that considerably more water could be obtained from the watershed than previously estimated.

Together with existing financial restraints on the implementation of the Berg River Scheme — the alternative supply source — this emphasized the desirability of using the groundwater supply.

METHODIST CHURCH WANTS SA TO SIGN NON-NUCLEAR PACT

Johannesburg THE STAR in English 20 Oct 83 p 3

[Article by Carina le Grange]

[Text]

DURBAN -- The Methodist Church of Southern Africa (MCSA) yesterday appealed to the South African Government to sign the Nuclear Non-proliferation Treaty.

A motion to this effect, which was passed unanimously by the 101st conference presently being held here, further said the church "recognised that many people within and beyond" South Africa's borders fear that the country is developing nuclear weapons.

The motion also says: "The conference believes that the development and deployment of nuclear weapons constitutes a major threat to the survival of mankind."

As far as known, the MCSA is the first church in South Africa to protest against nuclear arms.

The church also appealed to the Government to "recognise that the present violence (referring to

the Warmbaths bomb-blast and the Maputo strike) has the nature of a civil war"

With regard to bomb-blasts in South Africa and retaliatory strikes by the SADF in neighbouring countries, the church said it "deplored the escalation of violence in Southern Africa."

The conference "condemns violence by whomsoever it was committed and recognises that both sides in the conflict" are responsible.

The Government should address the problems which causes such violence "in a manner compatible with its professed adherence to a Christian lifestyle by dismantling the apartheid system."

Another motion deploring the "breakdown of law and order" in Ciskei was debated but not voted on when delegates were reminded that a similar motion in the Transkei in 1977 led to the banning of the Methodist Church in the territory. A revised motion will be considered today.

CSO: 5100/8

REPORT ON 27TH SESSION OF IAEA GENERAL CONFERENCE

PH121348 Moscow PRAVDA in Russian 12 Oct 83 First Edition p 5

[All reports under the general heading: "The Atom Serves Progress"]

[Text] Vienna, 11 Oct -- The latest, 27th session of the IAEA General Conference has begun its work in the Hofburg Palace here. Delegations from approximately 100 IAEA member states, including the USSR, the Ukrainian SSR, and the Belorussian SSR, are participating in it.

The session will examine a number of important questions connected with the further development of cooperation in the sphere of the peaceful use of nuclear energy, as well as measures to strengthen the nuclear nonproliferation system based on the Nuclear Non-proliferation Treaty. A greetings message from UN Secretary General J. Perez de Cuellar was read out at the session.

IAEA Dir. for General H. Blix, who delivered a statement, noted the importance of the resumption of talks between the USSR and the IAEA on placing under the agency's control a section of the peaceful Soviet nuclear installations -- AES's and research reactors. H. Blix evaluated highly the USSR's decision to increase its voluntary subscription to the IAEA technical aid fund.

A general debate got under way at the session. Addressing it, A.M. Petrosyants, head of the Soviet delegation, pointed out that the work of the General Conference session is taking place under conditions of sharp complications in the international situation. The situation is being exacerbated by the fact that the arms race has assumed an unprecedented nature as a result of the policy and actions of the West's aggressive forces. Races are being created at an accelerated pace for the deployment of new American nuclear missiles in West Europe.

The speaker emphasized the great significance of the Warsaw Pact states' package of proposals, the USSR's major new initiatives advanced in the statements of Yu. V. Andropov, general secretary of the CPSU Central Committee and chairman of the USSR Supreme Soviet Presidium, and also the USSR's proposals on condemning nuclear war and freezing nuclear weapons submitted at the 38th UN General Assembly session.

He also recalled the Soviet proposal advanced at the United Nations to multiply efforts to remove the threat of nuclear war and ensure the safe development of nuclear power generation, in order to prevent attacks on civilian nuclear installations.

The Soviet representative urged the IAEA to continue making a contribution to strengthening international cooperation in the sphere of the peaceful use of nuclear energy. Proceeding from the task of further enhancing the agency's prestige, he pointed out,

the USSR has voiced readiness, as an act of goodwill, to place under its guarantees part of its peaceful nuclear activity -- several AES's and research reactors.

Vienna, 11 Oct -- The PRC's application for membership of the agency has been considered at the 27th IAEA General Conference session, which is taking place here. The General Conference approved the PRC's admission to IAEA membership.

CSO: 5100/1

SPAIN

GOVERNMENT TO PUT LIMITATIONS ON NUCLEAR PROGRAM

Madrid EL PAIS in Spanish 14 Oct 83 pp 1, 11

[Text] The council of ministers in its session yesterday decided to partially halt the extensive nuclear program authorized by former cabinets, and to limit to 7,500-7,600 MW--down from the earlier level of 12,500 MW--the maximum nuclear power capacity in Spain. According to reliable sources, this will mean stopping or not starting construction in five of the ten nuclear units scheduled, at a cost in losses on investments already made of 500,000 million pesetas, or savings of 1.5 billion for construction that will not be necessary, reported Carlos Solchaga, minister of industry and energy, at the close of the government meeting.

Yesterday the council of ministers also approved a 6 percent average increase in electricity rates. Of the 49 cents which this increase will add to the cost per kilowatt-hour, 25 cents will be used to offset losses suffered by the power companies because of the freeze in the nuclear program.

An additional 4 cents will help to pay for enriched uranium stocks which have already been purchased, but which will now not be needed in the near future.

The minister of industry--the only member of the cabinet who attended the press conference held after the cabinet session--was not willing to state which plants will be affected by the partial halt in the nuclear program. Nonetheless, the five units, each of 1,000 MW, which will probably be affected will be the following: two units at Lemoniz, where construction has been halted since last year; two units at Valdecaballeros, where construction is still proceeding at a vigorous pace, and where 200,000 million pesetas have already been invested; and one unit at Trillo, now in the project engineering phase.

In yesterday's session, the government also decided to put off two major price increases that had been under study: prices of automotive fuels and of butane. Concerning automotive fuel prices, Solchaga reported that the government did not consider such an increase necessary at the present time, despite the fact that the decline of [the peseta in relation to] the dollar will mean a loss of revenue from oil earnings and taxes of about 2 percent of the amount predicted.

As for butane, a product with a very direct impact on the CPI [Consumer Price Index], similar to the impact of gasoline prices, the government has found another system for compensating the distributor, Butano, for the losses caused by the disequilibrium between import prices and retail sales prices. This system will be a direct subsidy by means of a special credit to offset losses.

In another decision of economic significance, the council of ministers decided to submit to the Cortes a bill placing requirements on obligatory cash ratios for new financial institutions similar to those in effect for savings institutions and for banks.

This measure approved by the cabinet will affect, among others, foreign banks operating in Spain, which have made use of the creation of new financial assets, such as promissory notes, bills, etc., in order to attract liabilities. This was limited by the decree allowing their establishment in Spain.

The council of ministers, meeting at the Moncloa, with Felipe Gonzalez acting as chairman, yesterday decided to freeze the nuclear program authorized by former governments, and to limit Spain's nuclear power capacity to 7,500-7,600 MW, the minister of industry and energy, Carlos Solchaga, announced yesterday. This measure is expected to limit to five the ten plants currently under construction or approved.

"Continuing the nuclear program as it was would have been a disaster for the power companies and for the nation," said Solchaga, who termed this a slowdown or temporary freeze. The council of ministers also decided to increase electricity rates by 6 percent, to postpone indefinitely increases in the prices of petroleum byproducts--including butane--and to approve sending to the Cortes a bill on the cash ratios required for financial institutions.

Although the minister of industry said that the government has still not defined the criteria to be used in selecting the

nuclear plants affected, the extent of this limitation on Spain's nuclear power capacity suggests that five units will be affected (approximately 5,000 MW), of the 12,500 MW either authorized or in an advanced construction phase. Construction at these plants will either be interrupted or will not begin. The units that will probably be affected are: two units at Lemoniz, where construction has already been halted; two at Valdegabaleros, now in an accelerated construction phase; and one at Trillo, where work has still not begun, according to reliable sources. There is some speculation that the completion of Asco's unit 2 may be postponed.

On the subject of the electricity rate hike, which will be an average of 6 percent, a considerable part of this increase will be used to compensate the companies affected by this "nuclear freeze" for any losses caused to them. According to Solchaga, the economic effects on these companies, for investments made in this program which will not be used in the immediate future, have been estimated by his ministry at 500,000 million pesetas. According to the minister, this cost is less than what it would have cost to complete the program authorized by former governments, a program whose cost has been estimated by his ministry at about 1.5 billion pesetas.

At yesterday's council of ministers session, it was also decided to delay indefinitely the increase which the government had been considering for petroleum byproducts, including butane, for fuels, gasolines, gas-oils, heating fuels, and naphthas, the minister of industry and energy pointed out that this increase is now considered unnecessary, despite the devaluation of the peseta in relation to the dollar, the currency used for paying for crudes. He did admit, though, that the treasury will have a notable decline in its earnings and revenues from petroleum, but said this decline should not be above 2 percent of these earnings, if the official price of petroleum (\$29 per barrel) and the exchange rate of the peseta do not undergo any substantial changes during the remaining months of this year.

The Government's Arguments

For butane, a product widely used by lower-income groups, Solchaga did say that it is necessary to adjust the retail sales price of this product to its import cost. But he added that the government has decided to use other mechanisms to compensate the distributor, Butano, for the effects of this price/cost discrepancy. Although the minister did not specifically state this, it is known that the ministry of industry and energy presented three alternatives for financing the 9,000 million which Butano will

lose this year by keeping the prices of this product at a politically desirable level. The formula chosen is apparently a special credit for Butano, to come from the General State Budget for next year.

After the end of the council of ministers session, Solchaga tried to explain why the government has decided to freeze part of the nuclear program. According to the minister, the specialists preparing the PEN [National Energy Plan] feel that not as many nuclear units will be needed as were authorized by prior governments. Based on the forecasts for the increase in the Gross Domestic Product contained in the Mid-Term Economic Program, and also based on an annual cumulative increase of 4 percent in electricity demand until 1992, it will only be necessary to build nuclear power plants with a production capacity of 7,500-7,600 MW.

"These calculations agree with those prepared by the authors of the PSOE's [Spanish Socialist Workers Party] energy program. But no one should begin to think that this is just an attempt to keep a promise made during an election campaign. Behind this decision there are very well founded economic reasons," explained Solchaga.

In response to a specific question about which plants will be affected and about the criteria used in selecting these plants, Solchaga said that these criteria are still being developed, and that they are of an economic nature ("what is most profitable or least expensive for Spain") and are also based on safety.

Electricity Rates

Percentage of Increase in Prices for Household Use

	Percentage
January 1980 July 1980	12.92
January 1981 April 1981	19.17
January 1982	13.85
January 1983	6.00
October 1983	5.97

Average Price Trends: Pesetas/Kilowatt-Hour

1980	4.51
1981	6.30
1982	7.51
January 1983	7.60
March 1983	8.01
October 1983	8.50

Rate Increases

The minister of industry and energy, who held dinner meetings with the presidents of the power companies on 30 September and 1 October, spent a large part of his press conference in justifying the increases in electricity rates. He reported that the audits done by Arthur Anderson on costs and the company's economic and financial status were not interpreted in the same way by the ministry and by the companies. That is why, he said, the government did not feel it was necessary for the electricity rates to rise by 14 percent, a rate hike the companies had requested.

He added that the electricity rates, after the 7.5 percent increase adopted last January and the 6 percent increase approved yesterday, when combined, total an 8.8 percent increase for the entire year. For the users, this is the lowest rate increase in terms of percentages on an average annual basis, in recent years. According to the minister, this increase is sufficient to compensate the power companies for their higher financing costs brought about by the development of the nuclear program and by the slowdown in this program, which has now been decided on.

7679
CSO: 5100/2507

PCA WANTS ANDALUCIA AS NUCLEAR FREE ZONE

Madrid EL ALCAZAR in Spanish 13 Oct 83 p 9

[Text] The PCA [Communist Party of Andalucia] has introduced in the Regional Chamber a draft resolution under which Andalucia would be declared a "nuclear free zone."

Should the communist resolution be approved, Andalucia would not agree to the installation of nuclear arms or of raw materials intended for their production.

Furthermore, nuclear arms and their components could not transit Andalucian soil, nor would institutions dedicated to the production of nuclear arms exist. The autonomous government should see to it that these measures were carried out.

The communist resolution includes a demand that the national government take appropriate measures to carry out these objectives, assuring, in particular, that the base at Rota not be used in any way contrary to the spirit of this resolution.

Similarly, the regional committee of the PCE [Spanish Communist Party] for Castilla-La Mancha has requested a meeting with the president of the Junta, Jose Bono, to express their concern over what they consider the "obviously increasing militarization of the region," according to a communique published by the party.

According to their note, their concern derives from the project for installation of a firing range, thought to be the largest in Europe, on "Cabaneros" ranch in Ciudad Real and from the construction of what appear to be shelters against nuclear attacks in the municipal district of Los Yébenes (Toledo).

12336

CSO: 5100/2511

TORREJON PETITION FOR NUCLEAR FREE ZONE STATUS

Madrid ABC in Spanish 27 Oct 83 p 37

[Text] The Torrejon de Ardoz Town Council has resolved to petition the central government to declare the municipality a zone free of nuclear material designed specifically for warfare. This petition was approved in the recent council plenum session with the Popular Group voting against it and the PCE abstaining.

At the same time, the Torrejon de Ardoz Town Council asked the government to block the placement of nuclear weapons and depots in the municipality as well as raw material for weapons production and the transit of nuclear weapons through the municipality.

The Communist councillors had tendered a motion, which was rejected, to the effect that the zone be denuclearized without having resort to the government and asked for a referendum over the Spanish presence in NATO. The communists included in the motion the annulment of agreements with the U.S. regarding the Torrejon airbase.

000: 5100/2517

PCE FOR MADRID NUCLEAR FREE ZONE; NUCLEAR ENERGY DANGER CAMPAIGN

Madrid MUNDO OBRERO in Spanish 7-13 Oct 83 pp 24-25

[Article by Carmen Rivas]

[Text] According to a report published by a Madrid magazine in August, a nuclear attack on Spain, should war break out, would have devastating results: "5.5 million immediate deaths; more than 2.5 million wounded; within 30 days, another half-million would die from the effects of burns and radiation; another 65,000 people would develop cancer in the medium term; and some 700,000 would produce children with genetic defects and mutations."

Evacuate Madrid

In case of war, Madrid would offer four targets: Torrejon de Ardoz, Barajas, Getafe and Cuatro Vientos, all possibly subject to attack because of their use by NATO air forces or as resupply points. The radiation and contamination resulting from a nuclear explosion would be enough to cause Madrid to be evacuated for months.

The areas closest to ground zero--Torrejon, Getafe, Barajas--would disappear; San Blas, Ciudad Lineal, Hortaleza, Villaverde, los Carabancheles and Chamartin would suffer complete or a very high level of destruction; and the northeastern parts of the city would suffer lesser effects. The number of dead would be between 500,000 and a million, and there would be 400,000 wounded with aftereffects that would be revealed over the next 40 years and secondary effects that could result, over the following decades, in 100,000 cancer victims.

The City and Peace

As a result of rising international tensions, the Conference of National and Regional Capitals and Cities of Europe, meeting in Madrid from 15 to 17 June this year, was moved to make an urgent appeal to all cities, not just those of Europe but on all the continents, to join forces for the purpose of getting their respective governments and the United Nations to make agreements for the reduction of nuclear and conventional arms; prohibition and suppression of arms of mass destruction--nuclear, chemical or biological; freezing of strategic arsenals and of production of arms of mass destruction for the

period of negotiations between the powers concerned; application of the principles of equality and reciprocity with regard to all disarmament measures; a better and full exchange of verifiable information, as well as the strengthening of education for young people and adults on the problems of armament, detente and cooperation; and, finally, mobilization of the cities, with all their cultural, social and economic possibilities, to achieve mutually reinforcing and constant action in support of disarmament.

Madrid, Nuclear Free Zone

On 30 September, the Madrid Municipal Council, in plenary session, approved a joint Socialist/Communist motion to inform the government of the council's desire that, exclusively insofar as war is concerned, Madrid be declared a nuclear free zone. The motion carried despite the opposition of the Popular Alliance's representatives.

The text of the motion emphasizes the threat posed by the proximity to urban centers of nuclear installations that could, at a given moment, put the survival of their inhabitants in danger.

Juan Barranco, deputy to the mayor of Madrid, pointed out that the socialist group had acted in this instance in complete accordance with the undertaking made by Felipe Gonzalez in his inaugural speech not to nuclearize Spain.

Ubaldo Pastor, spokesman for the communist group, expressed his satisfaction with the agreement reached with the socialists on the text of the motion: "If Madrid today takes this decision," he continued, "if all the cities and villages in Spain would approach the government in the same vein and if collective expressions of sentiment of this kind were made in other countries, the first bases would have been established for getting the governments of the world to abandon the arms race."

Madrid is the seventh city in the autonomous community to have declared itself a nuclear free zone. Previously, the city councils of Leganes (PSOE--Spanish Socialist Workers Party), Arganda del Rey (PCE--Spanish Communist Party), San Fernando de Henares (PCE), Alcala de Henares (PSOE-PCE), Colmenar Viejo (PSOE) and Coslada (PCE) had approved motions declaring these municipalities nuclear free zones.

Meeting of Communist Mayors

Meeting in Madrid on 24 and 25 September, the PCE mayors agreed to carry out a campaign with the objective of having the city councils develop a series of low-cost activities that would make citizens aware of the dangers attending nuclear energy use.

This meeting of mayors also saw fit to emphasize the campaign for peace and general disarmament that the PCE, social organizations, etc., are now promoting in Spain and that will culminate on 23 October (World Peace Day).

The objectives of this campaign are to explain the necessity of world peace as a factor for progress and social wellbeing; to help avoid the danger of war and, in particular, secure Spain's withdrawal from NATO and the dismantling of military bases on our territory; and to activate a force for social action that would result, if possible, in the creation and development of pacifist groups.

Within the framework of the campaign to collect signatures for the referendum on NATO, communist public officials will go about collecting signatures during the week of 16-23 October.

12336

CSO: 5100/2511

ASSESSMENT OF REASONS, POSSIBLE IMPACT OF ANTI-NUCLEAR FORCES

Madrid EL PAIS in Spanish 24 Oct 83 p 10

(Editorial: "Peace Demonstrations")

(Text) A large part of the population of Europe opposes the installation of nuclear warhead missiles in their countries. The unprecedented demonstrations that have been staged in many cities are evidence of this. The turnout has been strikingly high for the rallies that have been held in Spain. One of the hallmarks of these demonstrations has been the heterogeneity of the participants: believers of various faiths and non-believers, even priests and Protestant pastors, individuals of varying political convictions. In all of the countries in which rallies have been taken, with the odd exception of England, most respondents have come out against the Euromissiles. We could state without exaggeration that nuclear weapons, with their horrifying destructive power, are being stockpiled in Europe against the will of its inhabitants.

The citizens of Europe are rising up against this in increasing numbers and with an increasingly keen awareness. This is not the same pacifism that has existed throughout history. We are witnessing a new and different phenomenon that can be traced back to the manifesto "For A Nuclear Weapons Free Europe" that the Bertrand Russell Foundation published in 1979 and that was signed by many well-known figures in various countries. But there have been many such manifestos that have not amounted to much. This one, however, set in motion a different wave of mass rallies. The term peace "movement" is acceptable if it excludes any organizational connotation. What we are seeing, in fact, is the most disorganized movement imaginable; the rallies are enormous because they bring together quite diverse groups, philosophies and movements around a common issue: opposition to nuclear weapons.

The main charge that the enemies of the peace movement hurl at it is that it is being manipulated by Moscow, and the Soviets are without question attempting to take advantage of the peace demonstrations in the West in their propaganda against NATO decisions. But the fact is that the peace movement has come out against both blocs. It opposes the installation of the Pershing-2 and Cruise missiles but it also demands the dismantling of the SS-20's, which pose an unacceptable threat to Europe. The currently tiny peace groups that try to uphold

this view in the Eastern bloc countries are persecuted and jailed. The underlying problem is that a considerable percentage of European public opinion does not feel that Europe's security will be enhanced by installing U.S. nuclear missiles to counter the SS-20's; other ways of providing for the continent's security must be found. To install more missiles is to make Europe more insecure, unless nuclear destruction is seen as one of the ways of providing for Europe's security. The current peace movement is uniquely spontaneous and wideranging, as evidenced by its demonstrations, because there is an increasingly clear-cut feeling that the Euromissiles are being installed not to enhance the security of nations and individuals but as part of the nuclear chess game that the militaries of the two superpowers are playing.

The very active presence of environmental and feminist groups in the peace demonstrations leads to frequent confusions, i.e. lumping all groups together. It is obvious, however, that the peace movement has a substance of its own and comprises other than environmental and feminist groups. The evolution of the movement's relationship with political parties has been complex. In some cases (France is the most obvious), the Communist Party has succeeded in dominating the peace demonstrations. The French Communist Party's schizophrenia in this regard is remarkable: in the government it supports Mitterrand's pro-Reagan policy on the issue while taking to the streets and giving the peace rallies a pro-Soviet slant. Therefore, we cannot say that there is a real peace movement in France. In the FRG, England, Holland, Belgium etc., in contrast, the extraordinarily broad peace movement is having influence on political parties there. The most obvious example is the shift by the German Social Democrats, and it is symbolic that Willy Brandt was quite pleased to be able to take part in the demonstration in Bonn. The fact is that the peace movement is introducing new elements into European politics. In the first place, a genuinely European identity that is much more consistent than what unions and parties have attempted in this regard, even though their Internationals are much more organized; secondly, the predominance of young people. This has been the first time since 1968 that masses of young people have made their presence felt in the streets in peace demonstrations, and this is happening at a time when youth membership in Socialist and Communist parties is extremely low. This feature confirms the depth of the phenomenon and its prospects. Focusing today on the struggle against the Euro-missiles, the movement will probably increase in influence in the future. If the peace movement succeeds in giving citizens input into decisions on nuclear issues and in introducing democracy into military affairs, then its historic importance will be substantial.

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CSO: 5100/2512

ASCO-2 RECEIVES ENRICHED URANIUM; EARLY 1984 COMPLETION DATE

Madrid EL PAIS in Spanish 14 Oct 83 p 40

[Article by Xavier Bas]

[Text] Tarragona. Shortly after midnight on Wednesday [12 October] the Asco nuclear power plant received a shipment of enriched uranium for its second nuclear unit, EL PAIS was told by absolutely reliable sources, who preferred to remain anonymous. These sources added that the reception of this uranium does not mean there will be any change in the fueling schedule for the Asco-2 reactor, now planned for the end of January or beginning of February of next year.

Two large trailer trucks, closely guarded by Guardia Civil vehicles, transported uranium from Barcelona to the Asco power plant during the night of Tuesday to Wednesday. Although government organizations yesterday maintained absolute silence about this trip and about the nature of the convoy's shipment, this paper was able to learn that the trailer trucks and the escort vehicles left the unloading port in the Free Zone and traveled along the Tarragona highway.

The convoy later turned onto the highway going to Lerida, reaching Asco by means of regional roads. The arrangements made by the persons responsible for such shipments indicated that populated areas were to be avoided. It seems most likely that the uranium came from the United States, was transported on the coastal beltway until reaching the Tarragona highway, more or less in the vicinity of the town of Sant Just.

The civil government of Tarragona has confirmed this transport, which was conducted "in accordance with the legislation in effect and with all the necessary permits; all precautions and optimum security measures were taken. One of these precautions

was having the shipment made at a time when there would be little highway traffic, and without any prior announcements, for elementary security reasons."

The same official statement mentions the destination of the nuclear fuel, which in this case has a radioactivity level of almost zero, stating it is "necessary for the supply of the reactor of the Asco power plant which, as the public has been informed on a number of occasions, has been in operation since August." So the official sources indirectly suggest that this uranium is to be used in Asco-1, but, according to the sources we consulted, this information is not correct.

7679

CSO: 5100/2507

GOVERNMENT'S HEAD NUCLEAR ENERGY OFFICIAL DISCUSSES POLICIES

[RECEIVED BY SVENSKA DAGBLADET in Swedish 2 Oct 63 p IV]

Interview with Olof Hormander by Bo Ostlund: "We Must Keep Nuclear Waste in Our Country"

Today, 1 October—which was yesterday—there was a change of guards at the SKI [National Nuclear Power Inspection Agency], our most predominant nuclear body, which has the task of supervising all activities within the area of nuclear energy. The now departing director, Prof Lars Nordstrom, has just emphasized the many risk factors of nuclear power, while director general Olof Hormander, 60 years old this year, who is taking over the position, starts out with a positive accord:

"Good technology, good organization, a high level of education and a large community that understands the role of nuclear power in our society has given Sweden very safe nuclear power, a statement that is supported by all available statistics."

It was agreed as if the new SKI director has from the beginning adopted an attitude that is very positive to nuclear power but also possesses the sharpness of a scientist. His background is that of a civil engineer in chemistry and mechanical engineering. He defends himself against superficial labels:

"Technology is neither good nor bad and to the answer whether I like nuclear power I have to say that it is not a 'yes' or 'no' question. There are both advantages and disadvantages. It has to be accepted as a resource that should be used as long as our politicians think so and we should use it as safely as possible—the supervision of that is going to be my job."

'Rather little'

But what then does our new SKI director know about nuclear technology? Hormander answers that he knows "rather little" but after a moment of talking it appears that "rather little" is measured in very strict terms.

The reason includes, among other things, 10 years at Atomic Energy. He was efficient leader at Ramstad during the years of enthusiasm at the end of the 1940s and in the beginning of the 1950s.

He finally agrees to describe his know-how as a good general education.

And that, of course, immediately seems a little safer in regard to the future role of the SKI.

And after some further talking a picture emerges of an engineer who is very well informed in the field. "A good general education" is based, among other things, on the fact that he was a member of the Energy Commission and since 1982 has been chairman of the Energy Research Committee.

[Question] What was your attitude during the intense debate about nuclear power before the popular vote?

[Answer] Neutral.

[Question] Were you completely passive?

[Answer] No, but I was not active either in any other respect than that I gave some talks on some occasions and explained certain facts, that is, on occasions when I was asked to do so.

"How did you vote?" was our next question, but he answered before we had time to ask:

"I voted," he said with a pronounced final period.

[Question] Is it good that our politicians have set a final date for use of nuclear power, the year 2010. What if it is still functioning very well at that date?

[Answer] It is hard to set a fixed date in this way. There are political explanations for it right now.

But we have to start from what applies now. Seen from the SKI's horizon the question about a final date is not of primary interest--we will be using nuclear power and we will continue to use it as long as possible. And our demands for safety will have to be set high and be increased continuously to keep pace with the technical advancement.

A Good Law

In this area Olof Hormander thinks that the nuclear law, which is currently being considered by the legislative council and on which the Riksdag will take a position later this fall, is exemplary.

The principle that the legislation sponsors are emphasizing is the very correct one, that is, to give the dynamics of technical advancement a chance.

A law that is too rigid risks leaving us in a locked position. The conditional law was no success in this regard, according to the future director of the SKI. There it was determined that a certain solution to waste problems was "completely safe," that the problem was solved.

"That is not the case," says Hormander. In the law that the Riksdag is now going to pass, the continuous study of safety matters will be emphasized and the demands for safety will be increased with the technical advancement.

Only what is best is good enough under any circumstances.

During the discussion about these new principles for atomic safety Olof Hormander declares his own program of action:

"This is a short way to describe it: Research-development go hand in hand with application."

[Question] Soon there will be 300 nuclear power reactors in operation in the world. In Sweden alone there will be 12 reactors that produce electric power. Nuclear power is here to stay--at least for a few decades. What do you think about the risks of nuclear power as compared to other sources of energy?

[Answer] Then you have to talk about the risks and effects on the environment. And you have to try to balance that.

The simplest picture that describes this balance may look like this: A nuclear power plant that functions as planned has very little effect on the environment, if any. A coal power plant that functions as planned will continually affect the environment despite large efforts to purify the gases and to treat the waste. But when the safe operation is interrupted, when there is a breakdown, the picture is the opposite one: then nuclear power plant becomes acutely dangerous, while the most that happens to the coal plant is that it burns down to the ground.

Yes, that is a good description," says Hormander. Part of it is that the risks of a nuclear power plant are very small even though they exist. The Three Mile Island, which became so important in the global debate about nuclear power safety, really did not become a disaster after all.

It became a financial disaster for the owner of the plant.

Five Categories

"But I want to describe the risks and the effects of nuclear power on the environment in five main categories," says Hormander:

1. The plant as such has no effect on the environment at all. It looks like any other plant, different from a water power plant which covers large areas of land with water and changes the landscape permanently.
2. The operation of a nuclear power plant also has negligible effects. The effect is due to the discharge of warm coolant water--but that happens also at many other kinds of industries and when coal is used for heating.
3. A disaster situation--yes there are risks involved. But I want to bring up the case of the Three Mile Island in Harrisburg again. No disaster actually took place in the usual meaning of the word disaster.

4. Waste. Here we have a problem for which we have not yet found a solution. Now the KBS [The Nuclear Power Safety Project] III is submitted for consideration. Proposed solutions are included. I have not yet learned the details of the KBS III. That will be one of my first tasks as the director of the SKI. But I want to add that I looked into problems of this type while I was in the Energy Commission and I have reasons to assume that we have made progress since then. That would mean that we may have solutions for waste treatment that are acceptable.

5. The risk for the spreading of plutonium, the risk for the spreading of nuclear weapons. This is a question of many dimensions that leads to many side tracks. You might say that civilian atomic waste is not especially attractive for making plutonium weapons--but it is correct to say that it is possible to make weapons out of it. The way I look at it, it is better to have Swedish control over the waste, to keep it within the country, out of concern for this matter.

Hormander avoids answering the next question which is whether he has an opinion about further conversion and vitrification of Swedish waste at the Cogema plant in La Hague in France.

"I want to complicate this problem regarding the evaluation of risks with another large matter that is uncertain. That is the spreading of carbon dioxide in connection with combustion of any kind. Here we can only imagine what effects increasing levels of carbon dioxide may have, for example, on the climate," says Hormander.

'Not Afraid'

The SKI--the National Nuclear Power Inspection Agency--is a much more concrete topic. The task is to be rigid--and condemned to be criticized: the SKI is demanding too much or it is demanding too little.

"Yes, but I know, of course, what I am getting into. I am not afraid of the attention. The tension between those who think that we are not strict enough and those who think that we are too strict will become a strong combination of knowledge and integrity."

Olof Hormander also says that he has already visited his future work place and the staff. He says that it gave him a very good impression.

[Question] As the director of the SKI you will especially examine Swedish nuclear power. You said here initially that the Swedish safety is at a very high level, which is expressed as, among other things, very positive statistics. Is Swedish nuclear power technology possibly best in the world?

[Answer] I cannot determine that, but our Swedish solutions and our Swedish constructions have indeed proved to be very reliable. This is an objective fact.

There are other Swedish nuclear power concepts that have received international attention. One of these is ASEA's nuclear power heat reactor Secure, intended for the heating of large cities.

[Question] Right now Secure exists only as a model, as an idea. The majority that won in the popular vote about nuclear power in Sweden believes that it has also gained the authority to say no to heating by means of nuclear power. What does the future SKI director say about Secure?

[Answer] It represents an interesting solution. The idea of built-in security is an idea that can be applied to similar techniques. You can generally say that this is a very young field of technology and the future may very well bring us nuclear power reactors that have derived their basic philosophy from the nuclear power reactor Secure.

The built-in safety that Hormander's answer refers to is the basic principle that Secure is built on--that is that Secure is immersed in water that contains boron, it operates at low temperatures and the reaction is kept going because the heated water maintains a "bubble lock." When the reactor is disturbed or in any way deviates from its normal behavior, the water locks at the top and at the bottom release boron containing water and the reactor stops almost immediately.

Olof Hormander has already said that he is not afraid of the attention that is part of the new job as director general of the SKI.

Gathering Strength

He also tells SVENSKA DAGBLADET about how he gathers strength:

"A very important source of strength in my life is my involvement in the Swedish Church. If you ask whether I am a believer, my answer is yes."

"Another thing that I believe in is the interaction between man and technology. And as I said earlier in your interview: To follow the development, to see that research and development go hand in hand with application."

And in less than a week the change of directors will take place at the SKI.

In a sense Olof Hormander has already started to train for his new job--a couple of weeks ago he attended for the first time the exclusive group "the Director Generals Association." There he probably told his colleagues all that was not brought up in this interview.

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